

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Winston-Salem Regional Office
County: Surry
NC Facility ID: 8600009
Inspector's Name: Robert Barker
Date of Last Inspection: 05/12/2016
Compliance Code: 3 / Compliance - inspection

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): Vaughan-Bassett Furn Co - Elkin Furniture</p> <p>Facility Address: Vaughan-Bassett Furn Co - Elkin Furniture E. Main Street Elkin, NC 28621</p> <p>SIC: 2511 / Wood Household Furniture NAICS: 337122 / Nonupholstered Wood Household Furniture Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p align="center">Permit Applicability (this application only)</p> <p>SIP: 02D .0503, 02D .0504, 02D .0512, 02D .0516, 02D .0521, 02D .1109, 02D .1111 NSPS: N/A NESHAP: Subpart JJ, Subpart DDDD, Subpart ZZZZ, Subpart DDDDD PSD: N/A PSD Avoidance: 02Q .0317 NC Toxics: N/A 112(r): N/A Other: N/A</p>
---	--

Contact Data			Application Data
<p align="center">Facility Contact</p> <p>Barry Branscome Vice Pres/Director of Eng. & Env. Comp. (276) 238-2205 300 E. Grayson Street Galax, VA 24333</p>	<p align="center">Authorized Contact</p> <p>Rodney Poe Vice President/Plant Manager (276) 236-6161 300 E. Grayson Street Galax, VA 24333</p>	<p align="center">Technical Contact</p> <p>Barry Branscome Vice Pres/Director of Eng. & Env. Comp. (276) 238-2205 300 E. Grayson Street Galax, VA 24333</p>	<p>Application Number: 8600009.16A Date Received: 11/03/2016 Application Type: Renewal Application Schedule: TV-Renewal</p> <p align="center">Existing Permit Data</p> <p>Existing Permit Number: 02467/T29 Existing Permit Issue Date: 05/30/2013 Existing Permit Expiration Date: 08/31/2017</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2015	0.0100	0.2100	0.0100	0.2600	0.0700	0.0148	0.0082 [Hydrogen chloride (hydrochlori)]
2014	0.0200	0.3400	0.0100	0.4200	0.1200	0.0265	0.0134 [Hydrogen chloride (hydrochlori)]
2013	0.0100	0.1000	---	0.1300	0.0400	0.0081	0.0041 [Hydrogen chloride (hydrochlori)]
2012	0.0400	0.7900	6.27	0.9600	0.6200	0.8256	0.3725 [Toluene]
2011	0.4100	0.9800	9.69	1.20	0.4600	1.54	0.7372 [Toluene]

<p>Review Engineer: Urva Patel</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p align="center">Comments / Recommendations:</p> <p>Issue 02467/T30 Permit Issue Date: Permit Expiration Date:</p>
---	---

1. Purpose of Application:

Currently, Vaughan-Bassett Furniture Company holds Title V Permit No. 03059T29 with an expiration date of August 31, 2017. The Title V renewal application (**Application No. 8600009.16A**) was received on November 3, 2016, which was at least nine months prior to the expiration date of the Title V permit. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

The facility ceased all finishing operations on June 15, 2012 and ceased all woodworking operations on August 29, 2012. Application No. 8600009.16A is for a permit renewal and determination of CAM non-applicability. The facility has removed bagfilters (ID Nos. CD-8, CD-17, and CD-18) and cyclone (ID No. CD012) but they would like them to remain in the permit.

2. Facility Description:

The Vaughan-Bassett Furniture Company, Inc. – Elkin Plant is a wood furniture manufacturing facility located in Elkin, Surry County, North Carolina. Permitted sources include:

- two (2) wood/coal-fired boilers covered under Case-by-Case MACT and Boiler MACT 5D;
- wood finishing operations covered under MACT Subpart JJ;
- various woodworking operations;
- eight (8) lumber drying kilns covered under MACT Subpart DDDD; and
- one diesel emergency generator covered under MACT Subpart ZZZZ.

3. History / Background / Application Chronology:

Permit History Since Last Permit Renewal

September 6, 2012 Title V Air Permit No. 02467T28 issued. This permit includes renewal of Title V Air Permit.
 May 30, 2013 Title V Air Permit No. 02467T29 issued. This modification indicates the facility is shuttered but would like to maintain an active Air Permit. The boilers would be used to provide steam heat to manufacturing operations.

Application Chronology

November 3, 2016 Received application for permit renewal.
 November 9, 2016 Sent acknowledgement letter indicating that the application for permit renewal was complete.
 April 3, 2017 Regional confirmed on submittal of semi-annual reports for boilers. Therefore, I removed the following sentence from permit conditions 2.1 A.6.h and 2.1 B.7.h “The first summary report shall be required on July 30, 2013”
 May 4, 2017 On removal of two baghouses (ID Nos. CD-17 and CD-18), Mr. Berry Branscome commented “we would like for these baghouses to remain in the permit, enabling us to replace them at a later date with “like” filter.”
 May 5, 2017 As per Mr. Robert Barker (Region Comments), Bagfilter (ID No. CD-8) and Cyclone (ID No. CD-12) has been removed from the facility. The facility has a 250-gallon diesel fuel oil storage tank on-site for the diesel-fired firewater pump as per his compliance inspection report dated April 20, 2017.

4. Summary of Changes to the Existing Permit (Permit No. 03059T46):

Page No.	Section	Description of Changes
Cover Letter	N/A	Update cover letter for application number, permit numbers, dates, fee class, PSD increment statement and Chief name.
Permit Cover	N/A	Insert new issuance, complete application date and application number.
Cover and throughout	Cover and throughout	<ul style="list-style-type: none"> • Updated regulation references from “2D” and “2Q” to “02D” and “02Q” to be consistency with regulation nomenclatures.

Page No.	Section	Description of Changes
3	Section 1, table	<ul style="list-style-type: none"> Added MACT Subpart DDDDD (ID No. ES-4 and ES-5) Added Notes at end of the table
5	2.1 A	<ul style="list-style-type: none"> Added new raw(s) in table for adding HAPs - MACT 5D, 02D .1109, 02D .1111, footnotes etc.
9	2.1 A.6.b	<ul style="list-style-type: none"> Changed effective dates for 112(j) "Case-by-Case MACT" and 40 CFR 63, Subpart DDDDD "Boiler MACT"
10	2.1 A.6.h	<ul style="list-style-type: none"> Removed "The first summary report shall be required on July 30, 2013" as they are still submitting semi-annual reports based on email from Regional.
10	2.1 A.7	<ul style="list-style-type: none"> Condition added for 112(j) transition to Boiler MACT
11	2.1 B	<ul style="list-style-type: none"> Added new raw(s) in table for adding HAPs - MACT 5D, 02D .1109, 02D .1111, footnotes etc.
16	2.1 B.7.b	<ul style="list-style-type: none"> Changed effective dates for 112(j) "Case-by-Case MACT" and 40 CFR 63, Subpart DDDDD "Boiler MACT"
17	2.1 B.7.h	<ul style="list-style-type: none"> Removed "The first summary report shall be required on July 30, 2013" as they are still submitting semi-annual reports based on email from Regional.
17	2.1 B.8	<ul style="list-style-type: none"> Condition added for 112(j) transition to Boiler MACT
22	2.1 F	<ul style="list-style-type: none"> Changed emission source description from "Diesel-fired emergency engine" to "Diesel-fired firewater pump" Updated condition with the emergency operation limitations

5. Compliance Status:

DAQ has reviewed the compliance status of this facility. During the most recent inspection conducted on May 12, 2016, Robert Barker of the of the Winston-Salem Regional Office indicated that the facility appeared to be in compliance with all applicable requirements. Additionally, a signed Title V Compliance Certification (Form E5) indicating that the facility was following all applicable requirements was submitted with Application No. 8600009.16A on November 9, 2016.

Five-year Compliance History:

- On July 3, 2013, the Winston-Salem Regional Office of Air Quality (DAQ) sent facility a letter serves as a Notice of Violation for violation of 15A North Carolina Administration Code (NCAC) 02D .0207, Annual Emissions Reporting under Air Permit No. 02467T29. It was for a late 2012 emission inventory.
- For 2013, the emission inventory was due by June 30, 2013. It received on July 5, 2013
- The facility was inspected on May 12, 2016 and appeared to be in compliance with all applicable air quality regulations.

6. Regulatory Review

Vaughan-Bassett is subject to the following regulations. An extensive review for each applicable regulation is not included in this document, as the facility's status with respect to these regulations has not changed. The permit conditions have been modified to reflect the most current stipulations for all applicable regulations. The facility is required to be in continued compliance.

A. **One firetube design wood/coal-fired boiler (ID No. ES-4) and associated multicyclones (ID Nos. CD-1A and CD-1B)**

1. Applicable Regulatory Requirements:

- 15A NCAC 02D .0503: Particulates from Fuel Burning Indirect Heat Exchangers
- 15A NCAC 02D .0504: Particles from Wood Burning Indirect Heat Exchangers
- 15A NCAC 02D .0516: Sulfur Dioxide Emissions from Combustion Sources
- 15A NCAC 02D .0521: Control of Visible Emissions

- 15A NCAC 02D .1109: 112(j) Case-by-Case Maximum Achievable Control Technology
2. Changes per the Title V Permit Renewal
- Changed effective dates for 112(j) “Case-by-Case MACT” and 40 CFR 63, Subpart DDDDD “Boiler MACT”

B. One firetube design wood/coal-fired boiler (ID No. ES-5) and associated multicyclones (ID Nos. CD-2A and CD-2B)

1. Applicable Regulatory Requirements:

- 15A NCAC 02D .0503: Particulates from Fuel Burning Indirect Heat Exchangers
- 15A NCAC 02D .0504: Particles from Wood Burning Indirect Heat Exchangers
- 15A NCAC 02D .0516: Sulfur Dioxide Emissions from Combustion Sources
- 15A NCAC 02D .0521: Control of Visible Emissions
- 15A NCAC 02D .1109: 112(j) Case-by-Case Maximum Achievable Control Technology
- 15A NCAC 02Q .0317: Avoidance Conditions – PSD Avoidance

2. Changes per the Title V Permit Renewal

- Changed effective dates for 112(j) “Case-by-Case MACT” and 40 CFR 63, Subpart DDDDD “Boiler MACT”

C. Wood Furniture finishing operations including:

- Nine dry filter-type spray booths (ID Nos. ES-1.1 through ES-1.9)
- Three dry filter-type spray booths (ID Nos. ES-3, ES-12, ES-14)
- One glaze stain baffle-type spray booth (ID No. ES-2)
- One reverse roll coater (ID No. ES-15)
- Two steam-heated drying ovens (ID Nos. DO-1, DO-2)
- Gluing and assembly operation (ID No. ES-6)
- Finish pump room (ID No. ES-PR)
- Nine finish storage day tanks (ID Nos. ES-ST1 through ES-ST9)

Applicable Regulatory Requirements:

- 15A NCAC 02D .0512: Particulates from Wood Products Finishing Plants
- 15A NCAC 02D .0521: Control of Visible Emissions
- 15A NCAC 02D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart JJ)
- 15A NCAC 02Q .0317: Avoidance Conditions – PSD Avoidance

D. Woodworking operations (ID No. ES-7) with associated:

- simple cyclone (ID No. CD-4) in series with one Bagfilter (ID No. CD-9),
- simple cyclone (ID No. CD-5) in series with one Bagfilter (ID No. CD-6),
- Bagfilter (ID No. CD-8),
- Bagfilter (ID No. CD-10),
- Bagfilter (ID No. CD-16), and
- Bagfilter (ID No. CD-18)

Woodworking operations (ID No. ES-8) with associated bagfilters (ID Nos. CD-11 and CD-13)

Expanded sanding operation (ID No. ES-9) with associated simple cyclone (ID No. CD-12) in series with one Bagfilter (ID No. CD-8)

Post sanding operation (ID No. ES-10) with associated Bagfilter (ID No. CD-9)

1. Applicable Regulatory Requirements:

- 15A NCAC 02D .0512: Particulates from Wood Products Finishing Plants
- 15A NCAC 02D .0521: Control of Visible Emissions

2. Changes per the Title V Permit Renewal

- As per email from Mr. Robert Barker (Winston-Salem Regional Office), “Two of the Bagfilters (ID No. CD-17 and ID No. CD-18) have been removed from the site.”

E. Lumber Drying Kilns (ID Nos. ES-11A through ES-11H)

Applicable Regulatory Requirements:

- 15A NCAC 02D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart DDDDD)

F. Diesel-fired Firewater Pump (ID No. ES-16)

1. Applicable Regulatory Requirements:

- 15A NCAC 02D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ)

2. Changes per the Title V Permit Renewal

- As per email from Mr. Robert Barker (Winston-Salem Regional Office), “The diesel-fired emergency generator ID No. ES-16 is actually a firewater pump.” It was also mentioned on May 12, 2016

2.2 Multiple Emission Sources Specific Limitations and Conditions:

A. Affected Source - All facilities subject to 40 CFR Part 63 Subpart JJ: NATIONAL EMISSIONS STANDARD FOR WOOD FURNITURE MANUFACTURING OPERATIONS

One furniture finishing operation including:

Nine dry filter-type spray booths (ID Nos. ES-1.1 through ES-1.9)

Three dry filter-type spray booths (ID Nos. ES-3, ES-12, ES-14)

One glaze stain baffle-type spray booth (ID No. ES-2)

One reverse roll coater (ID No. ES-15)

Two steam-heated drying ovens (ID Nos. DO-1, DO-2)

Gluing and assembly operation (ID No. ES-6)

Finish pump room (ID No. ES-PR)

Nine finish storage tanks (ID Nos. ES-ST1 through ES-ST-9)

Applicable Regulatory Requirements:

- 15A NCAC 02D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart JJ)

State-Enforceable only

B. All emissions Sources (Facility-wide)

Applicable Regulatory Requirements:

- 15A NCAC 02D .1806: Control and Prohibition of Odorous Emissions

7. NSPS, NESHAP/MACT, NSR/PSD, 112(r), CAM

NSPS

This facility is **NOT** subject to New Source Performance Standards (NSPS), 40 CFR 60. This permit renewal does not change this status.

During the previous permit renewal (02467T28), the diesel-fired emergency engine (ID No. ES-16) was investigated to determine if it was applicable to the NSPS for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60 Subpart IIII. This rule is applicable to owners and operators of internal combustion engines that commence construction after July 11, 2005, where the engines are manufactured after April 1, 2006. Mr. Branscome indicated via e-mail that the diesel-fired emergency engine (ID No. ES-16) was manufactured in February 1970 and was at the facility as early as 1985. Therefore, this engine is not subject to NSPS IIII.

NESHAP/MACT

This facility is a major source for HAPs emissions and is subject to major source MACTs as following:

- 15A NCAC 02D .1109, 112(j) Case-by-Case Maximum Achievable Control Technology – Both boilers (ID Nos. ES-4 and ES-5) are subject to this regulation. These conditions were added under Air Permit No. 02467T27, issued on June 3, 2010. The facility is required to be in continued compliance.

Additionally, a new condition will be added to the permit clarifying that the boilers are subject to the Case-by-Case MACT until May 19, 2019. The facility must be in compliance with EPA's NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD from May 20, 2019. No other changes to the Case-by-Case MACT permit conditions are required.

- 15A NCAC 02D .1111, Maximum Achievable Control Technology – The facility is subject to the following MACTs:
 - Lumber Drying Kilns (ID Nos. ES-11A through ES-11H) –NESHAP for Plywood and Composite Wood Products, 40 CFR 63 Subpart DDDD. The only requirement under MACT DDDD was submittal of initial notification.
 - Furniture Finishing Operations – NESHAP for Wood Furniture Manufacturing Operations, 40 CFR 63 Subpart JJ.

On November 21, 2011, the EPA promulgated the Residual Risk and Technology Review (RRTR) for MACT JJ. The RRTR amended MACT JJ to prohibit conventional spray guns and to limit emissions of formaldehyde from facilities to 400 pounds per 12-month period. The amendments will be incorporated into Permit Condition 2.2.A for the MACT JJ sources.

- Diesel-fired emergency engine (ID No. ES-16) – NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63 Subpart ZZZZ.

Mr. Robert Barker indicated via email that “The diesel-fired emergency generator ID No. ES-16 is actually a firewater pump”. This engine is considered an existing engine located at a major source of HAPs under the RICE, because it was constructed before June 12, 2006. The engine must meet the requirements in Table 2c of the RICE and must be in compliance with RICE by May 13, 2013.

NSR/PSD

Surry County is designated as attainment. The facility is a major for PSD for the potential emissions of VOC, NO_x and SO₂. There is **NO** potential increase in any PSD regulated pollutants above the major source threshold under this permit renewal as this permit renewal does not involve any modification that will result in a “significant emissions increase.” Therefore, there are no PSD implications under this permit renewal.

- 15A NCAC 02Q .0317, Avoidance Conditions – The facility has accepted the following conditions to avoid applicability of 2D .0530, Prevention of Significant Deterioration (PSD):
 - Boiler ID No. ES-5: Emissions of nitrogen oxides (NO_x) and sulfur dioxide (SO₂) are each limited to less than 40 tons per consecutive 12-month period.
 - Spray Booths ID Nos. ES-3, ES-12, and ES-14 – Combined emissions of volatile organic compounds (VOC) from these spray booths are limited to less than 40 tons per consecutive 12-month period.
 - Reverse Roller ID No. ES-15 – Emissions of VOC from this source are limited to less than 40 tons per consecutive 12-month period. This PSD avoidance requirement was added under Air Permit No. 02467T25 issued on May 6, 2005.

112(r)

This facility is **NOT** subject to the requirements of the Chemical Accident Release Prevention Program, Section 112(r) of the Clean Air Act requirements. This permit renewal does not change this status.

Compliance Assurance Monitoring (CAM)

Pursuant to 40 CFR 64.2, the provisions of the Compliance Assurance Monitoring (CAM) rule are applicable to emission units that meet all of the following criteria:

Criteria #1: The unit is subject to an emission limitation AND uses a control device to achieve compliance with the limit;

Criteria #2: The unit has pre-control potential emissions that are equal to or greater than 100% of the amount (in tpy) required for a source to be classified as a major source (i.e., 100 tpy of any criteria pollutant or 10 tpy of any HAP, North Carolina); and,

Criteria #3: The unit is not exempt under 40 CFR 64.2(b).

The following table summarizes CAM applicability at Vaughan-Bassett Furniture Company, Inc.:

Emission Unit	Criteria #1: Does the Source Use a Control Device?	Criteria #2: Pre-control PTE \geq 100% of major source thresholds?	Criteria #3: Exempt Under 40 CFR 64.2(b)?	CAM Source?
ES-1	No	No	Exempt ¹	No
ES-2	No	No	Exempt ¹	No
ES-3	No	No	Exempt ¹	No
ES-4	CD-1A, CD-1B (Multi cyclones)	No	Exempt ²	No
ES-5	CD-2A, CD-2B (Multi cyclones)	No	Exempt ²	No
ES-6	No	No	Exempt ³	No
ES-7	PM; CD-4, CD-5, CD-6 (Cyclone) PM; CD-8, CD-10, CD-16, CD-18 (Bagfilter) PM; CD-9 (Fabric Filter)	No (PM)	No	No
ES-8	PM; CD-11, CD-13, CD-17 (Bagfilter)	No (PM)	No	No
ES-9	PM; CD-9 (Bagfilter) PM; CD-12 (Cyclone)	No (PM)	No	No
ES-10	PM; CD-9 (Bagfilter)	No (PM)	No	No
ES-12	No	No	Exempt ¹	No
ES-14	No	No	Exempt ¹	No
ES-15	No	No	Exempt ³	No
ES-11A	No	No	Exempt ³	No
ES-11H	No	No	Exempt ³	No
ES-PR	No	No	Exempt ¹	No
ES-ST	No	No	Exempt ¹	No
DO-1	No	No	Exempt ¹	No
DO-2	No	No	Exempt ¹	No

¹ The finishing operations are subject to 40 CFR 63, Subpart JJ (Wood Furniture Finishing MACT). Therefore, they are exempt from further regulation under CAM.

² The boilers (ES-4 and ES-5) are subject to 40 CFR 63, Subpart DDDDD (Boiler MACT). Therefore, they are exempt from further regulation under CAM.

³ The gluing operations and dry kilns are subject to 40 CFR 63, Subpart DDDD (PCWP MACT). Therefore, they are exempt from further regulation under CAM.

8. Facility-Wide Air Toxics:

Per NCAC 02Q .0705, a facility must demonstrate facility-wide compliance with NC Air Toxics at the same time it has to be in compliance with the last MACT known to apply to the facility, excluding MACTs for combustion sources. Further, under NCAC 02Q .0703(6), combustion sources are defined as “boilers, space heaters, process heaters, internal combustion engines, and combustion turbines, which burn only unadulterated wood or unadulterated fossil fuel.” Boiler ID No. ES-4

does not meet this definition of a combustion source because Vaughan-Bassett occasionally burns finishing material in the boiler. Such material is not considered to be unadulterated wood or fossil fuel. Therefore, this boiler loses its exemption as combustion sources under 02Q .0705. The last MACT for the facility then is the Case-by-Case MACT. Facility-wide compliance with NC Air Toxics was due by June 3, 2013, which was the compliance date for the Case-by-Case MACT.

9. Facility Emission Review:

There are no changes in potential emissions under this permit renewal. Actual emissions for 2011 through 2015 are reported in the header of this permit review.

10. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. South Carolina and local programs: Forsyth county and Virginia state are within 50 miles of the facility and will be notified accordingly.

11. Other Regulatory Considerations:

- NO application fee is required with this application.
- A Professional Engineers Seal is NOT required with this application.
- A zoning consistency determination is NOT required for this application.
- A 30-day public notice and 45-day EPA review is required for this application.

12. Recommendations/Conclusion:

DAQ recommends the issuance of Air Quality Permit No. 02467T30 to Vaughan-Bassett Furniture Company, Inc.